

February 22, 2017



U.S. Department
of Transportation

East Building, PHH-30
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 20289

EXPIRATION DATE: 2019-01-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: FDC Composites Inc
Saint-Jean-Sur-Richelieu, Quebec
Canada

US AGENT: Corporation Service Company
Wilmington, DE
United States

2. PURPOSE AND LIMITATIONS:

a. This special permit authorizes the manufacture, mark, sale and use of non-DOT specification glass fiber reinforced plastic (GFRP) cargo tank conforming to all applicable requirements for DOT specification 412/407 cargo tanks, except as specified herein, for the transportation in commerce of the materials authorized by this special permit. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.

b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.

February 22, 2017

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 107.503(b) and (c) in that manufacturer is not required to hold an ASME U stamp or National Board R stamp; § 173.242 in that non-DOT specification packaging is authorized as specified herein.
5. BASIS: This special permit is based on the application of FDC Composites Inc dated July 27, 2016, submitted in accordance with § 107.105 and the public proceeding thereon.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Battery fluid, acid	8	UN2796	II
Corrosive liquids, n.o.s.	8	UN1760	I, II or III
Fluoroboric acid	8	UN1775	II
Fluorosilicic acid	8	UN1778	II
Hydrobromic acid, <i>with more than 49 percent hydrobromic acid</i>	8	UN1788	II
Hydrobromic acid, <i>with not more than 49 percent hydrobromic acid</i>	8	UN1788	II
Hydrochloric acid	8	UN1789	II
Hydrofluoric acid and Sulfuric acid mixtures	8	UN1786	I
Hydrofluoric acid, <i>with not more than 60 percent strength</i>	8	UN1790	II
Hypochlorite solutions	8	UN1791	II
Potassium hydroxide, solution	8	UN1814	II
Sodium hydroxide solution	8	UN1824	II

February 22, 2017

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Sulfuric acid <i>with not more than 51% acid</i>	8	UN2796	II

7. SAFETY CONTROL MEASURES:

a. PACKAGING - The authorized packaging is a non-DOT specification glass fiber reinforced plastic (GFRP) cargo tank conforming to all regulations applicable to a DOT Specification 412/407, except as specified herein. Each tank must have a design pressure of 35 psig and a design margin of 4.0:1. Maximum tank capacity may not exceed 5,600 US water gallons. Each tank must be designed and constructed in accordance with FDC Composites drawings entitled Assemblage Citerne and Detail Joint Layup dated December 2, 2014, drawing entitled 60 Inch ID FRP Pipe (drawing number TRE001-01) dated December 3, 2014, and in accordance with drawing entitled Aft Spillbox dated March 26, 2015. The corresponding calculations and specifications for the glass fiber reinforced plastic (GFRP) cargo tank design must be on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD). Each tank must be in compliance with § 173.242, except as specified herein. In addition, tanks must meet all requirements for a DOT-407 and DOT 412 specification cargo tank motor vehicle (§§ 178.345, 178.347 and 178.348), except as follows:

- (1) §§ 178.345-1, 178.347-1 and 178.348-1: Any references to ASME Code requirements do not apply.
- (2) §§ 178.345-2 and 3; 178.347-2; and 178.348-2: Type of material, wall thickness and lining requirements do not apply. Tank shell, heads, liner and fittings must be constructed in accordance with the data on file with the OHMSAPD.
- (3) § 178.345-4: Joint weld requirements do not apply.

February 22, 2017

(4) § 178.345-7: Circumferential reinforcement requirements do not apply.

(5) § 178.345-10(c): Pressure relief provisions for location do not apply.

(6) § 178.345-14: Specification plate and name plate requirements must be appropriately modified to reflect compliance with terms of this special permit. For example:

DOT NAME PLATE
CARGO TANK MANUFACTURED BY
FDC COMPOSITES INC.
Saint-Jean-Sur-Richelieu, Quebec
Canada
DOT Reg. # CT-XXXX

CARGO TANK MFR. SERIAL #: _____
SPECIFICATION: DOT 407/412 SP-20289
ORIGINAL TEST DATE: _____
CARGO TANK MAWP: 35 (psig)
CARGO TANK TEST PRESSURE: 53 (psig)
CARGO TANK DESIGN TEMP. RANGE: -20°F to 180°F
NOMINAL WATER CAPACITY: _____
MAXIMUM LADING DENSITY: _____
SHELL MATERIAL: FRP/BALSA/FRP
MINIMUM SHELL THICKNESS: _____
HEAD MATERIAL: FRP
MINIMUM HEAD THICKNESS: _____
EXPOSED SURFACE AREA: _____

CARGO TANK PRESSURE VESSEL CONSTRUCTED IN ACCORDANCE WITH DOT SP-20289

DOT SPECIFICATION PLATE
CARGO TANK MOTOR VEHICLE MANUFACTURED BY
XXX Co.
XXX, XX USA
DOT Reg. # CT-XXXX

SPECIFICATION: DOT 407/412 SP-20289
CARGO TANK MOTOR VEHICLE CERTIFICATION DATE: _____
CARGO TANK MFR.: _____
CARGO TANK DATE OF MFG: _____
CARGO TANK MFR. SERIAL #: _____
CARGO TANK MOTOR VEHICLE MFR. VIN: _____
MAXIMUM PAYLOAD: _____
MAXIMUM LOADING RATE: _____
MAXIMUM UNLOADING RATE: _____

February 22, 2017

(7) § 178.345-15 Certification: The manufacturer's certificate retained by the motor carrier shall reflect the cargo tank manufacturer and final assembly and/or CTMV and reflect compliance of the terms contained in the special permit.

(8) § 180.413: Any modification must be authorized in writing by OHMSAPD. The manufacturer must be notified and authorize any repairs to the pressure vessel including lining. Repairs that effect the structural integrity of the design that involve replacement of structural layers beyond the liner shall be considered "structural" and must be performed by the manufacture. If total "structural" repair area is less than 2 square feet in total area the repair may be performed by an authorized service center approved by the manufacturer following written procedures provided by the cargo tank manufacturer.

b. TESTING -

(1) The GFRP cargo tank motor vehicle shall meet all requirements for DOT 407/412 CTMV's except that references to the ASME Code do not apply. Qualification and maintenance shall meet all requirements for DOT 407/412 CTMV's in Subpart E of Part 180.

(2) Initial qualification testing must be in accordance with § 180.405, except that any references to ASME Code requirements do not apply. Periodic requalification must include a hydrostatic test and an annual inspection of lining, which must be performed as described in the manufacturer's application. In addition to those items required to be examined by the visual inspections specified in § 180.407(d) and (e), the visual inspections must include detection of cracks, gouges, debonding or delamination of any layers, and liner deterioration. Any cracks or contamination that are beyond the liner and extend into the structural layers will be considered structural repairs. Liner deterioration that includes significant "fiber bloom" or exposed glass fibers subject to

February 22, 2017

chemical attack below the surface veil layers will be cause for repair. Linings on any tankers that are manufactured with conductivity should be spark tested according to the manufactures requirements.

c. OPERATIONAL CONTROLS: The compatibility of commodities and the GFRP cargo tank must be based on ASTM C 581 "Standard Test Method for Chemical Resistance of Thermosetting Resins Used in Glass Fiber Reinforced Structures". Test reports must be maintained by the owner or manufacturer for as long as the cargo tank remains in active operation.

d. The grantee of the special permit shall inform OHMSAPD of the person who is manufacturing the GFRP shells under the terms of the special permit. The grantee may not utilize a new person to manufacture the GFRP shells unless acknowledged in writing by OHMSAPD. Persons manufacturing the GFRP shells may be inspected by PHMSA or other government agencies to verify their capability to perform their manufacturing functions authorized under the terms of the special permit.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not a holder of this special permit, but receives a packaging covered by this special permit, may reoffer it for transportation provided no modification or change is made to the packaging and it is offered for transportation in conformance with this special permit and the HMR.

c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

February 22, 2017

- d. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.
- e. A current copy of this special permit must be maintained at each facility where the packaging is manufactured under this special permit. It must be made available to a DOT representative upon request.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier before or at the time the shipment is tendered.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
- o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
 - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
 - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

February 22, 2017

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for William Schoonover
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Andrew Eckenrode / Victor Casillas